Contents Volume 172, July 15, 1992

David Carlson (San Diego, California), Daniel Hershkowitz, and Dafna Shasha (Haifa, Israel)
Block Diagonal Semistability Factors and Lyapunov Semistability of Block Triangular Matrices 1

Y. P. Hong and C.-T. Pan (DeKalb, Illinois)
A Lower Bound for the Smallest Singular Value 27

Kenneth D. Clark (Research Triangle Park, North Carolina)
Decomposition of Hessenberg DAE Systems to State Space Form 33

Marcin Paprzycki (Odessa, Texas)
Comparisons of Gaussian Elimination Algorithms on a Cray Y-MP 57

Shmuel Friedland (Chicago, Illinois)
Lower Bounds for the First Eigenvalue of Certain *M*-Matrices Associated With Graphs 71

Richard E. Faulkenberry (North Dartmouth, Massachusetts)
The Continuous Kernel of a Nonsquare Rational Matrix Function 85

Jean H. Bevis and Frank J. Hall (Atlanta, Georgia)
Nested Range Conditions for *LU* Factorizations of Integer Matrices 97

Daniel L. Boley (Minneapolis, Minnesota), Tong J. Lee, and Franklin T. Luk (Ithaca, New York)
The Lanczos Algorithm and Hankel Matrix Factorization 109

Leonid Gurvits (New York, New York), Leiba Rodman (Williamsburg, Virginia), and Tamir Shalom (New York, New York)
Controllability and Completion of Partial Upper Triangular Matrices Over Rings 135

Richard A. Brualdi and Geum-Sug Hwang (Madison, Wisconsin)
Generalized Transitive Tournaments and Doubly Stochastic Matrices . . 151

James Nagy (Raleigh, North Carolina) and Robert J. Plemmons (Winston-Salem, North Carolina)
An Inverse Factorization Algorithm for Linear Prediction 169

S. L. Chung, F. B. Hanson, and H. H. Xu (Chicago, Illinois)
Parallel Stochastic Dynamic Programming: Finite Element Methods 197

D. Calvetti (Hoboken, New Jersey) and L. Reichel (Kent, Ohio)
A Chebychev-Vandermonde Solver 219

James R. Bunch and Ricardo D. Fierro (La Jolla, California)
A Constant-False-Alarm-Rate Algorithm 231

THOMAS J. LAFFEY AND ELEANOR MEEHAN (Dublin, Ireland)
An Extension of a Factorization Theorem of Wedderburn to Matrix Rings 243

RICHARD A. BRUALDI AND HYUNG CHAN JUNG (Madison, Wisconsin)
Maximum and Minimum Jump Number of Posets From Matrices 261

D. Y. HU (Lexington, Kentucky) AND L. REICHEL (Kent, Ohio)
Krylov-Subspace Methods for the Sylvester Equation 283

G. S. AMMAR (DeKalb, Illinois), W. B. GRAGG (Monterey, California), AND L. REICHEL (Kent, Ohio)
Downdating of Szegó Polynomials and Data-Fitting Applications 315

ROGER A. HORN (Baltimore, Maryland) AND ROY MATHIAS (Williamsburg, Virginia)
Block-Matrix Generalizations of Schur's Basic Theorems on Hadamard Products 337

P. AMODIO AND L. BRUGNANO (Bari, Italy)
Parallel Factorizations and Parallel Solvers for Tridiagonal Linear Systems 347

AUTHOR INDEX 365